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1751 PINNACLE DRIVE
SUITE 500
MCLEAN, VA 22102-3833

EXAMINER

AFTERGUT, JEFF H

ART UNIT	PAPER NUMBER
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1746

NOTIFICATION DATE	DELIVERY MODE
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11/10/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocketing@milesstockbridge.com
sstiles@milesstockbridge.com

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With regard to claim 21, the original disclosure while describing a “double screw kneader” with a common rotational direction, there is no description of a “non-cutting” double screw kneader which “does not have edges to cut the reinforcing fibers”. The original disclosure did state that the length of the fiber was not altered in the kneader; however it did not describe the double screw as having “edges” which did not cut the reinforcing fibers and never referred to the same as “non-cutting”. Such is deemed not to have been in applicant’s possession at the time the invention was made.

Election/Restrictions

3. Claims 9-16, 19, and 20 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3-18-10.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-8, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1088645 in view of Japanese Patent 51-66367 further taken with Simons (US 4,353,763, newly cited).

EP '645 and Japanese Patent '367 are cited for the same reasons as noted in paragraph 6 of the Office action dated April 26, 2010. The combination failed to teach the inclusion of a nozzle which was disposed at the exit of the kneader and which extended downwardly from the input of the kneader to a central location along the side of the winding mandrel. It should be noted that the resin was not applied to the mandrel in the middle of the same (the material was applied onto the top of the winding core in both instances and not in the central region of the same) where a pressing means was used to press the mixture against the core. However, it was known to provide a kneader (extruder) for a thermoplastic material which was to be wound upon a core wherein the same included a profiled nozzle which directed the material from the end of the extruder (kneader) to the central region of the winding core and included a pressing means which pressed the material against the core as evidenced by Simons wherein the nozzle was directed downwardly toward the center of the mandrel. The applicant is more specifically referred to Figure 1 where the extruder 12 includes a nozzle 11 at its end which directs the plastic material 10 from the exit of the extruder to the center of the mandrel 1 where the plastic material 10 is pressed against the mandrel 1 with a

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pressure roller 14 in the manufacture of a plastic tube on a mandrel. Clearly, as a function of where the material is to be directed against the mandrel, it would have been within the purview of the ordinary artisan when winding a tube from a kneaded and extruded strip of plastic material to employ a profile nozzle which directed the material to the center of the mandrel as well as a pressing means for pressing the same against the mandrel while winding to form the plastic tube as such would have ensured good contact between the plastic and the mandrel and/or previously applied layers as suggested by Simons in the process of making a plastic tube where one employed kneaded fibers in a polymeric material in the manufacture of the wound tube as taught by the combination of Japanese Patent '367 and EP '645.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 5 further taken with Scheuring et al (newly cited).

While the references as set forth above in paragraph 5 suggested the overall operation, they failed to expressly state that one skilled in the art at the time the invention was made would have employed a twin (double) screw kneader wherein the screws were rotated in the same (co-rotated) rotational direction whereby the fibers in the resin were not damaged but were retained at length. It was known in the conventional structure of a kneading device wherein reinforcement was being blended with a resin material to employ co-rotating (rotating in the same direction) screws as the kneading means as suggested by Scheuring et al. More specifically, the reference taught that those concerned with mixing glass fibers with a polymer material in a

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kneading device would have employed a twin screw arrangement where the screws were parallel to one another and rotated in the same direction. It should be noted that by using such an arrangement fibers of 10 to 50 mm can be employed (without detriment to the length of the fiber). Clearly, the arrangement for the kneader as set forth by Scheuring et al would have been useful in the operation in order to enable kneading of the fibers of a greater length. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the twin screw extruder arrangement of Scheuring et al as the kneading means in the operation in order to ensure that long fiber reinforcement material was able to be used in the operation in the winding process as set forth above in paragraph 5.

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 5 further taken with Hawerkamp (newly cited).

The references as set forth above in paragraph 5 suggested that those skilled in the art would have provided relative motion between the extruder (kneader) outlet nozzle and the mandrel or form onto which one wound. This relative axial movement must take place in order for one to be able to wind the resin material onto the mandrel. The references taught that the mandrel or form was moved axially as the material was being applied from the stationary nozzle. However, movement of the nozzle along a carriage which moved axially along form of mandrel was known as an alternative to moving the mandrel or form axially as suggested by Hawerkamp. More specifically, the extruder (kneader) 2 was disposed upon a carriage 8 (where the exit of the extruder

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included a nozzle arrangement (head) 3. The carriage 8 was designed to move along the mandrel of form 9 along an axis parallel to the mandrel or form in order to provide for the helical winding of the strip of extruded plastic material upon the form. Because one skilled in the art at the time the invention was made was well aware that relative movement between the nozzle and the mandrel was needed in order to provide for the helical winding of the plastic strip material, it would have been understood that the processing (where the extruder was on a carriage as suggested by Hawerkamp) would have been a functional equivalent alternate means for provision of the needed relative movement. Because it would have provided the necessary relative movement, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Hawerkamp in the process of making a plastic strip helically wound fiber reinforced tube as set forth above in paragraph 5.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 6 further taken with Hawerkamp.

The references as set forth above in paragraph 6 suggested that those skilled in the art would have provided relative motion between the extruder (kneader) outlet nozzle and the mandrel or form onto which one wound. The references additionally specified the use of a double screw kneading device where the screws were rotated in the same rotational direction and were parallel to one another. The relative axial movement between the mandrel and the nozzle must take place in order for one to be able to wind the resin material onto the mandrel. The references taught that the mandrel or form was moved axially as the material was being applied from the stationary nozzle.

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However, movement of the nozzle along a carriage which moved axially along form of mandrel was known as an alternative to moving the mandrel or form axially as suggested by Hawerkamp. More specifically, the extruder (kneader) 2 was disposed upon a carriage 8 (where the exit of the extruder included a nozzle arrangement (head) 3. The carriage 8 was designed to move along the mandrel of form 9 along an axis parallel to the mandrel or form in order to provide for the helical winding of the strip of extruded plastic material upon the form. Because one skilled in the art at the time the invention was made was well aware that relative movement between the nozzle and the mandrel was needed in order to provide for the helical winding of the plastic strip material, it would have been understood that the processing (where the extruder was on a carriage as suggested by Hawerkamp) would have been a functional equivalent alternate means for provision of the needed relative movement. Because it would have provided the necessary relative movement, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Hawerkamp in the process of making a plastic strip helically wound fiber reinforced tube as set forth above in paragraph 6.

Response to Arguments

9. Applicant's arguments with respect to claims 1-8, 17, 18, and 21-23 have been considered but are moot in view of the new ground(s) of rejection.

The applicant essentially argues only that Japanese Patent '367 failed to teach the specific arrangement of the profile nozzle and the use of a pressing means to press the strip against the mandrel. The applicant is advised that such was NOT previously

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claimed. As now claimed, the newly cited references appear to suggest the specific configuration for winding a kneaded strip of fiber reinforced plastic to manufacture a tubular article.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Haring et al suggested a kneading mechanism which included two screws which were co-rotated.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Jeff H. Aftergut/ whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:30-4:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katarzyna Wyrozebski can be reached on 571-272-1127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff H. Aftergut/
Primary Examiner
Art Unit 1746

JHA
November 3, 2010